Claims 9, 10, 12, 14 and 15 stand rejected under 35 U.S.C. §102(e) as being anticipated by Faltermeier et al., U.S. Patent No. 5,579,156 ("Faltermeier"). Claims 11, 13 and 16 stand rejected under 35 U.S.C. §103 as being unpatentable over Faltermeier in combination with either Shimizu '374 or Arai et al., U.S. Patent No. 5,579,156 ("Arai").

The Claimed Invention

Independent claims 1, 3, 6 and 9 are aspects of the claimed invention which can be characterized as an image sensing apparatus providing and maintaining an optimized exposure condition for a subject selected by the zone selecting means. Specifically, the image sensing apparatus stores optimum control parameters of the selected zone in a memory when exposure control is optimized, and maintains an optimized exposure condition on the basis of the optimum control parameters stored in the memory.

As described in "BACKGROUND OF THE INVENTION", page 6, line 8, through page 9, line 26, conventional image sensing apparatuses capable of performing so-called mean photometry, center-emphasizing photometry, or photometry that combines the mean photometry and the center-emphasizing photometry, can perform optimum exposure control automatically without any difficulty on the part of the photographer.

However, even these photometric methods do not always provide a state of exposure control that is intended by the photographer. Thus, manual exposure correcting means have been proposed to allow a photographer to manually set exposure in order to deal with difficult photographic conditions, such as strong frontlighting. When using a manual

exposure control means, however, it is difficult for the photographer to accurately discern the state of exposure of the subject by using an electronic viewfinder (EVF) or a liquid-crystal display (LCD) which has a small screen, because the dynamic range of the EVF or the LCD is insufficient.

According to the claimed image sensing apparatus, a photographer first selects any zone of the subject in which the optimum state of exposure is desired to be obtained by zone selecting means. Exposure detection is then performed automatically by an exposure detection means for detecting an exposure condition relating to an image signal in the selected zone on the basis of the image signal. Next, exposure control is performed automatically for controlling exposure based upon the detected exposure condition by exposure control means. Memory means then stores control parameters relating to exposure control by the exposure control means when the exposure control means is optimized. Thereafter, control means is performed automatically for controlling the exposure control means to maintain an optimized exposure condition on the basis of control parameters stored in the memory means by control means.

In this manner, an optimized exposure condition to a selected zone will be performed or maintained appropriately only by a photographer's selection of a zone or subject. That is, an optimum exposure condition will be enabled and locked to the selected zone even when the photographer's visual axis or line-of-sight gets out of the selected zone because the control parameters are stored in the memory means.

The §103 Rejection Based on Shimizu

Claims 1-5 stand rejected under 35 U.S.C. §103 as being unpatentable over Shimizu '374.

Shimizu '374 discloses an exposing apparatus which detects a gain of the iris 2, a shutter speed of the CCD image pickup device 3, and a gain amount of the AGC amplifier 4 and uses these detection results to control these elements 2-4, by comparing with a predetermined signal R a digital image pickup signal which has been generated from an output of the CCD 3. The signal R is generated by modulating a predetermined exposure reference signal supplied from the circuit 9 in accordance with the reference level modulation coefficient K.

The Examiner states that the claimed memory means for storing control parameters relating to exposure control by the exposure control means when the exposure control means is optimized is met by the ROM 16.

As the Examiner pointed out in paragraph 1 of the Final Rejection, there is a relation between the reference level modulation coefficient K and the luminance level. In the apparatus of Shimizu '374, the luminance level, which is the coefficient K representing a brightness of the object, has been stored in the ROM 16 (col. 5, lines 9-10). To generate the signal R, the reference signal from the circuit 9 is modulated (corrected) by the multiplying circuit 17 in accordance with the reference level modulation coefficient K. That is, the coefficient K is merely read out from the ROM 16, because the ROM is "read only memory". Therefore, Shimizu '374 does not teach or suggest storing the optimum exposure

control parameters for a selected zone or maintaining an optimized exposure condition based upon them.

Furthermore, the coefficient K disclosed in Shimizu '374 is not related to a selected zone. Accordingly, if the photographer's visual axis gets out of the finder, the exposure and focus control for the selected zone cannot be maintained.

Iwasaki is directed to a visual axis detecting device 110 which detects a visual axis of a photographer, and a tracking device 155 which tracks a position which is near the position of object detected by device 110 and has approximate spectral characteristics. The exposure and focus are controlled by the tracking process. Iwasaki detects and keeps track of an object in the finder, but does not teach storing optimum exposure control parameters for the detected position of the object or maintaining an optimized exposure condition based upon them.

Therefore, Shimizu '374 and Iwasaki do not teach or suggest, either singularly or in combination, the subject matter of claims 1-5. Accordingly, Applicants respectfully submit that these claims are patentably distinguished from Shimizu '374 and Iwasaki.

Claims 6-8 stand rejected under 35 U.S.C. §103 as being unpatentable over Shimizu '374 in view of Iwasaki and in view of Shimizu, U.S. Patent No. 5,400,074 ("Shimizu '074").

Shimizu '074 is directed to correcting a brightness attenuating characteristic of the zoom lens responsive to the position of a zoom lens, but does not teach the storing of

optimum exposure control parameters for a selected zone or maintaining the optimum exposure based upon them.

Thus, Shimizu '374, Iwasaki, and Shimizu '074 do not teach or suggest, either singularly or in combination, the subject matter of claim 6. Accordingly, Applicants respectfully submit that claim 6 is patentably distinguished from these references.

The §102 Rejection Based on Faltermeier

Claims 9, 10, 12, 14 and 15 stand rejected under 35 U.S.C. §102(e) as being anticipated by Faltermeier.

Faltermeier is directed to a photomicroscope with a video camera and an exposure time control for a still camera which performs focus control by the autofocus module 23 of the CCD camera 14, an exposure control by the exposure control 26, and a selection of image area (area position and area size) for exposure metering by the track ball 27c of the control panel 27.

The Examiner stated that the claimed memory means for storing adjusting data obtained from the adjusting means is met by the auto focus module 23 where video images which are read out (from image processor 22) one after the other are stored and compared with each other, and a drive signal for the electrical focusing drive is gained from the result.

The Examiner further stated that the claimed control means is met by the exposure control 26 which receives information regarding areas of the video image taken with the video camera 14, which are to be used for exposure control. The user can choose

via switching knobs 27b whether the entire video image should be used for exposure control or only a portion of the image area, such as 1%, 3%, or 10% of the entire image surface.

However, video images stored in the auto-focus module 23 are merely a previous result of a focus detection condition and they are used for comparing with incoming video images to detect the best focus condition. As the examiner stated, "video images which are read out one after the other are stored and compared with each other" in the auto focus module 23. Thus, data in the auto-focus module 23 is changing every moment; data stored in the autofocus module 23 is not the "adjusting data" relating to a prescribed state as recited in claim 9.

Furthermore, because the apparatus of Faltermeier cannot store the adjusting data, the prescribed state cannot be locked and maintained as to a selected zone. Accordingly, Faltermeier fails to teach storing the adjusting data for a selected zone or maintaining the prescribed state based upon them.

Thus, Applicants respectfully submit that claims 9, 10, 12, 14 and 15 are patentably distinguished from Faltermeier.

The §103 Rejection Based on Faltermeier

Claim 11 stands rejected under 35 U.S.C. §103 as being unpatentable over Faltermeier. Claim 13 stands rejected under 35 U.S.C. §103 as being unpatentable over Faltermeier in view of Shimizu. Claim 16 stands rejected under 35 U.S.C. §103 as being unpatentable over Faltermeier in view of Arai et al., U.S. Patent No. 5,570,156 ("Arai").

As discussed in the previous sections, both Faltermeier and Shimizu fails to teach storing optimum exposure control parameters for a selected zone or maintaining the optimum exposure based on them.

Arai is directed to a camera utilizing detection of visual line comprising an electronic viewfinder. Arai, however, also fails to teach storing optimum exposure control parameters for a selected zone or maintaining the optimum exposure based on them.

Therefore, claims 11, 13 and 19 are patentably distinguished from these references.

Based on the foregoing, Applicants respectfully request reconsideration and allowance of all claims.

Respectfully submitted,

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